

SECRET

19 September 1955

MEMORANDUM FOR: C/TSS/OPTICAL BRANCH

SUBJECT: Project

50X1

1. The four K 20 cameras obtained and modified for Project during May 1955 were returned to Washington during the early part of July 1955. They were delivered to the Photo Division. The Photo Division conducted tests on each of the four (4) cameras and returned them to APD 13 September 1955. Their report dated 12 September 1955 is separate from this report.

50X1

2. APD made a visual inspection of the cameras upon arrival from PD and a further and more searching visual inspection on the 14th of September 1955. The inspection on the 14th indicated that not one of four (4) cameras was functioning properly. The cause of failure could be one of many and could not be determined specifically until each camera has had a general overhauling.

3. These cameras were obtained and modified on a crash basis for this project, and were delivered for operational use at the very last minute. Shortage of time deprived Photomechanisms of any opportunity to properly test them before they were delivered because the mission was due to commence. This mission took place some 1500 miles away. The cameras were hand carried to the aircraft enroute to the mission and placed inside the passenger's cabin in an effort to prevent any rough handling. Even though the cameras were "babied" right up to the moment they were put into operation, they did not perform satisfactorily or could they be considered reliable. They did, however, supply enough information to justify using them. The mission itself was rugged insofar as the cameras were concerned.

4. After the mission was over in early May, all the equipment, including the cameras, remained in a hot and humid climate for about five (5) weeks, during which time they were being boxed and crated for transportation by truck back to Washington. The return trip by truck no doubt added its share of jolts and vibrations to the cameras for which they were not designed to withstand.

5. The visual inspection of the cameras on the 14th of September and the inspection of the test negatives made by the Photo Division from the four (4) cameras revealed the following:

a. Cameras:

SECRET

SECRET

a. Cameras:

The rubber strips and black velvet strips on the camera cover and on the base that the camera cover fits over to prevent light leaking onto the exposed and unexposed film had come off in places.

There was dust and apparently fingerprints on the reflecting mirrors.

The batteries (Silver cell) were practically in a state of complete discharge.

Corrosion had taken place over the battery terminals and spreading over the metal supporting the batteries.

There seemed to be an indication of fungus starting on the mirrors.

There is no doubt that loose dust has found its way into the internal parts of the cameras.

It could not be determined by the visual inspection that the film advance mechanism was functioning.

It could not be determined whether or not there were loose electrical connections, nor if the mirrors were in alignment, or the lenses in focus.

b. Negatives:

The negative tests supplied by the Photo Division were made after the mission was over, after the cameras remained in storage in a humid climate, after a long transit by truck (approximately 1500 miles), and after about eight weeks in the possession of the Photo Division.

Little significance can be given to the report submitted by the Photo Division except to reiterate that already known that the cameras should be returned to Photomechanisms, for overhaul. A memorandum to this effect was written to C/APD on 1 July 1955. Several conferences were held regarding the possible future use for these cameras, and it was decided that they should be put in operational condition for aerial photography.

7. Recommendations:

a. Return the four (4) cameras to Photomechanisms for general overhauling, cleaning, repairing, and testing.

b. Should the tests reveal or indicate that the design of the optical and electrical systems incorporated into these cameras is unreliable, they should not be used on an actual mission.

c. Should the tests indicate that the basic idea of the two systems can be made reliable by further refinement and modification, this should be accomplished, if for no other reason than to learn that this company is able to perform such tasks on a crash basis, if given sufficient time.

1 -
1 - Chrono

SECRET

TSS/APD

50X1

50X1

50
50
50

150

500
150

350

500
150

350
150

200